IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

RECEIVED
CENTRAL FAX CENTER

DEC 2 0 2004

In re application of:	Examiner: Rahimi, Iraj A
BAUM et al.	Art Unit: 2622
Application No.: 09/450,075	
Filed: 11/29/1999	
	APPELLANT'S BRIEF
For: PRINTING IMAGES IN AN OPTIMIZED MANNER	**UNDER 37 C.F.R. § 1.192**

BOX APPEAL
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313

Sir:

This Brief is presented in support of the Notice of Appeal filed on November 29, 2004, from the final rejection of Claims 1-89 of the above-identified application, as set forth in the Final Office Action mailed July 28, 2004. Please charge the required small entity fee for filing this Brief to Deposit Account 501861.

I. REAL PARTY OF INTEREST

The Real Party of Interest is Shutterfly Inc., a Delaware corporation.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences for the above-referenced patent application.

1

III. STATUS OF CLAIMS

Claims 1-89 are pending and are the subject of this Appeal.

IV. STATUS OF AMENDMENTS

A First Office Action mailed September 29, 2003 required restriction to Group I. The length of the Abstract was objected to. Claims 1-11 were rejected under Section 103(a) as unpatentable over Fredlund (USPN 5,166,215) and Johnson (USPN 6,052,670). Claims 12-24, 29-55, 59-76 and 89 were rejected as unpatentable over Fredlund, Johnson, and Cok (USPN 6,157,436). Claims 25-28, 58 and 62 were rejected as unpatentable over Fredlund, Johnson, Cok and Shaked (USPN 6,660,573). Claim 56 was rejected as unpatentable over Fredlund, Johnson, Cok and Chan (USPN 5,557,761). Claim 57 was rejected as unpatentable over Fredlund, Johnson, Cok and Gringeri (USPN 6,233,226). Claim 77 was rejected as unpatentable over Fredlund, Johnson and Zorn (USPN 6,129,346). Claims 78-80 were rejected over Fredlund, Johnson, and Juan (USPN 6,554,415). Claims 81-84 were rejected over Fredlund, Johnson, Juan and Church (USPN 4,049,256). Finally, claims 85-88 were rejected over Fredlund, Johnson and Robertson (USPN 6,505,534).

The Office Action of January 16, 2004 withdrew the Section 103 rejection for claims 1-11 and applied a Section 102 rejection using Fredlund (USPN 5,666,215). All other claims that relied on Johnson (USPN 6,052,670) were rejected using Fredlund. Claims 12-14, 29-31, 33, 59-76 and 89 were rejected under Section 103(a) as unpatentable over Fredlund, Cok, Shaked, Chan, Gringeri, Zorn, Juan, Church and Robertson. The Final Office Action of July 28, 2004 withdrew the objection to the drawings but maintained its rejections under Sections 102 and 103. An After Final Response was filed on September 24, 2004, and a Notice of Appeal was filed on November 29, 2004.

V. SUMMARY OF THE INVENTION

Briefly, Appellant's invention relates to a method of distributing image prints printed on a plurality of printers to a plurality of recipients. Traditionally, if a user such as a digital photographer desires to have prints of the same (or different) images sent to another person (e.g., a family member or friend) using an on-line print provider, the user typically must repeat each

2

ordering process for each recipient. Generally, repeating the ordering process to send prints to another person involves entering a considerable amount of redundant information, meeting the minimum order amount for each order, and incurring separate charges on the user's credit card (or other financial instrument). The present inventors recognized that it would be advantageous to take a single multiple-recipient order for image prints, break it down into sub-orders corresponding to a single recipient, break down each sub-order into printable units (referred to as "sub-batches") having matching processing parameters, and scheduling and printing the sub-batches on automated printing equipment in an optimized manner. Specification at pages 6-7.

As discussed in the Summary at pages 7-18, to solve the above issues, one method for distributing image prints printed on a plurality of printers to a plurality of recipients can include receiving an order specifying one or more recipients and, for each specified recipient, a set of one or more images associated with that recipient. The method also may include, for each recipient specified by the order, separating the images associated with the recipient into at least one printable unit of images. The images may have associated print parameters (e.g., print size, number of copies, and/or print finish), which may be set so as to allow the printable unit to be continuously printed and may differ among images within an image set. Moreover, each image set may include an arbitrary grouping of images designated by a user. Also, images in a first recipient's image set may differ from images in a second recipient's image set and print parameters of a first recipient's image set may differ from print parameters of a second recipient's image set.

The method may also include, for each printable unit, selecting a printer on which to print the printable unit and printing at least one copy of each image in the printable unit on the selected printer. Also, for each recipient, the images associated with the recipient may be separated into one or more sub-orders. Optionally, for each sub-order, the images associated with the sub-order may be separated into one or more sub-batches (e.g., sub-batches having print parameters that allow the sub-batches to be continuously printed) with each sub-batch representing a printable unit. Moreover, a plurality of orders may be received, and the images associated with each recipient specified in each order may be divided into at least one sub-order and each sub-order may be divided into at least one sub-batch.

3

At least one batch (e.g., including sub-batches from two or more different sub-orders) that includes one or more sub-batches (e.g., where each sub-batch can be continuously printed on the same type of printer) may be assembled. Moreover, the method may include scheduling the batches to be printed in a predetermined ordering. Also, the method may include combining the image prints from at least two sub-batches from the same sub-order and distributing the combined image prints to the recipient associated with the at least two sub-orders.

Each order may include image data (e.g., pixel data for the images in the order) and control data (e.g., print parameters, user contact information, recipient information, payment information, and message information). The control data can be used to control the printing of the images. The method may further include, before printing each image, correcting the image data for that image using information including the control data, and calibrating the image data using information including the control data and at least one characteristic of the printer on which the image is to be printed. For each batch, the image data for the batch may be stored in a cache that is local to the selected printer for that batch and the control data for the batch may be placed in a queue associated with the selected printer for that batch. Moreover, for each batch that is placed in a queue, the image data associated with the images included in that batch may be sent to an image processor associated with the selected printer for that batch (e.g., before the batch reaches the front of the queue). The method may also include verifying that an image print was printed with the correct image and checking the quality of the image print. A destination identifier print that identifies the specified recipient for a corresponding sub-batch of image prints (e.g., including a shipping address, a recipient's name, a print index, a bar code, a textual message and/or print re-ordering information) may be printed. The destination identifier print may delimit the corresponding sub-batch.

In another aspect, a method of generating physical manifestations (e.g., photographic prints of one or more digital images) of digital content (e.g., including one or more digital images) on a plurality of output devices may include receiving an order specifying one or more recipients and, for each specified recipient, a set of digital content associated with that recipient. The method also may include, for each recipient specified by the order, separating the digital content associated with the recipient into at least one generatable unit of digital content and, for each generatable unit of digital content, generating a physical manifestation of the unit of digital

4

content. Optionally, the method may further include, for each generatable unit of digital content, selecting an output device on which to generate a physical manifestation of the unit of digital content. Also, the method may include distributing the physical manifestations to their respective recipients. Moreover, the images in a generatable unit of images may have generation parameters that allow the generatable unit to be continuously generated. The generation parameters may include, for example, print size, number of copies, and/or print finish.

In another aspect, a print distribution system may include a plurality of printers and a front-end computer sub-system for receiving an order specifying one or more recipients and, for each specified recipient, a set of one or more images associated with that recipient. The system may also include a scheduler, connected to the front-end computer sub-system and the plurality of printers, that for each recipient specified by the order (a) separates the images associated with the recipient into at least one printable unit of images and (b) designates a printer on which each printable unit is to be printed.

Optionally, the front-end computer sub-system may receive a plurality of orders, and the scheduler, for each recipient, may separate each order into one or more sub-orders and, for each sub-order, separate each sub-order into one or more sub-batches. The scheduler in addition may assemble at least one batch including one or more sub-batches (e.g., wherein each sub-batch can be continuously printed on the same type of printer) and may schedule the batches to be printed in a predetermined ordering. The scheduler may use a global scheduling algorithm and/or may use a just-in-time scheduling algorithm. Moreover, the system may also include a plurality of line controllers. Each line controller may be associated with a printer and may have a queue for storing the batches until they are printed by the printer.

Each order may include image data (e.g., pixel data for the images in the order) and control data (e.g., print parameters, user contact information, recipient information, payment information, and message information). The system may also include an image cache local to the scheduler for caching the image data and an image processor (e.g., associated with at least one of the line controllers) for processing the image data and at least a portion of the control data prior to printing the image. The image processor may include image processor software in a computer-readable medium comprising instructions for causing the image processor to perform the following operations: (i) correct the image data using information including the control data,

5

and (ii) calibrate the image data using information including the control data and at least one characteristic of the designated printer. The image processor software may further include instructions for causing the image processor to generate a destination identifier image (e.g., a destination identifier image that can be used to print a destination identifier print that identifies the specified recipient for a corresponding sub-batch of image prints and that is generated from at least the sub-batch's control data). The destination identifier image for each sub-batch may be generated from the sub-batch's control data and image data.

The image cache may includes software in a computer-readable medium comprising instructions for causing the image cache to, in response to a message from the scheduler indicating that the scheduler has sent control data for a batch to the line controller, send the image data for that batch to the image processor associated with that queue. The system may also include a backprinter for backprinting at least one image print. The backprinter may backprint non-image information (e.g., an image number associated with the image, a printable unit number associated with the printable unit from which the image print was printed, reorder information, a bar code, and a message) on each image print. The message may be an advertisement, and the bar code may encode, for example, an audio message, the image number associated with the image, and/or the printable unit number associated with the printable unit from which the image print was printed.

The system may also include a digital camera (e.g., a low-resolution camera) for capturing data about at least one of the image prints. The captured data may be used to verify that the an image print was printed with the correct image data and may be used to check the quality of the image print.

The system may also include an inverter that inverts each image print prior to backprinting and a curl reduction equipment that reduces curling of the image print prior to backprinting. The curl-reduction equipment may use suction to reduce curling of the image print (e.g., by using a vacuum table). The system may also include an alignment device that aligns each image print prior to backprinting. The alignment device may include an alignment wall against which each image print is to be aligned prior to backprinting, and a skew conveyor that receives each image print after the image print has been printed and moves the image print towards the alignment wall as the skew conveyor conveys the image print to the backprinter. An

6

alignment sensor (e.g., a photosensor that optically senses the presence of the image print) may be positioned laterally inward from the alignment wall to detect whether a portion of the image print is positioned immediately beneath the alignment sensor.

The system may further include a conveyor on which image prints are stacked after printing and a controller, connected to the conveyor, that advances the conveyor so that a new stack can be stacked after all the image prints in a printable unit have been stacked on the conveyor. The system may also include a plurality of bins positioned on the conveyor so that the image prints for a printable unit are stacked in a bin. The bin may include a base for supporting the bin when the bin is placed on a surface of the conveyor, a first bottom wall connected to the base so that the first wall has a pitch incline with respect to the surface of the conveyor, and a second bottom wall connected to a first end of the first wall at one end. The second wall and first wall form an angle so that image prints received in the bin tend to stack on the first bottom wall with an edge of each image print registering with the second bottom wall. The system may also include a storage device in which one or more sub-batches can be stored for later combination with other sub-batches.

In another aspect, an alignment device used for aligning image prints may include an alignment wall against which each image print is to be aligned, and a skew conveyor that receives each image print after the image print has been printed and moves the image print towards the alignment wall as the image print is conveyed along the skew conveyor. The alignment device may also include an alignment sensor (e.g., a photosensor that optically senses the presence of the image print) positioned laterally inward from the alignment wall that detects whether a portion of the image print is positioned immediately beneath the alignment sensor.

In another aspect, a bin for collecting image prints may include a base for supporting the bin when the bin is placed on a surface, a first bottom wall connected to the base so that the first wall has a pitch incline with respect to the surface, and a second bottom wall connected to a first end of the first wall at one end. The second wall and first wall form an angle so that image prints received in the bin tend to stack on the first bottom wall with an edge of each image print registering with the second bottom wall. The first bottom wall may have an access notch formed therein that provides access to any image prints stacked in the bin. The bin may also include a side wall mounted to a side edge of the first and second bottoms walls. The first bottom wall

7

may have a roll incline with respect to the surface so that image prints received in the bin tend to stack on the first bottom wall with an edge of each image print registering with the second bottom wall.

In another aspect, a method may be provided for tracking an order specifying a plurality of recipients and, for each specified recipient, a sub-order of one or more images associated with that recipient. Each image is to be printed, packaged, and shipped. The method may include indicating that the image is in a first state (e.g., an entered state) when the order with which the image is associated has been received from a user, indicating that the image is in a second state (e.g., a processed state) when the image is being processed, indicating that the image is in a third state (e.g., a packaged state) when an image print created from the image has been packaged, and indicating that the image is in a fourth state (e.g., a shipped state) when the image print has been shipped. The method may also including indicating that the image is in a fifth state (e.g., a stored state) if the image is stored. The method may also include, if an error is detected while the image is in the second state and before the image is in the third state, reprinting the image.

In another aspect, a method of checking an image print that was printed from an image stored in an electronic file may include generating a first image signature based on the electronic file and generating a second image signature based on the image print. The method may include signaling an error if a predetermined criterion that is a function of the first and second signatures (e.g., that the first and second signatures do not correlate within a predetermined tolerance) is met. Generating the first image signature may include sampling the electronic file to create a lower-resolution image based on the image, and generating the second image signature may include taking a picture of the printed image. The Haar feature-recognition algorithm may be used to determine if the predetermined criterion is met, and the pictures may be taken at substantially the same resolution as the lower-resolution image. The lower-resolution image and the picture may each comprise a plurality of pixels. The method may also include signaling a second error if a predetermined number of pixels in the lower-resolution image do not match corresponding pixels in the picture. Optionally, checking may include confirming that the image prints are printed in the correct order and examining the quality of the image prints.

In another aspect, a method of generating an image print from an image may include receiving an image, printing the image to generate an image print (e.g., on a printer), reducing

8

curling of the image print, and backprinting information on the back of the image print. The image may include image data and control data. The method may also include, before printing the image, correcting the image data for the image using information including the control data and calibrating the image data using information including the control data and at least one characteristic of the printer. The information backprinted on to the image may include non-image information such as an image number associated with the image, reorder information, a bar code (e.g., encoding an audio message and an image number associated with the image), and a message (e.g., an advertisement).

The method may also include, prior to backprinting, inverting the image print and aligning the inverted image print. Optionally, curling of the image print may be reduced using suction, for example, with a vacuum table. The method may also include verifying that an image print was printed with the correct image and checking the quality of the image print.

In another aspect, a print system for printing images may include a front-end computer sub-system that receives an order specifying one or more images and one or more recipients and a printer sub-system connected to the front-end computer sub-system that prints image prints from the images in the order. The system may also include a packaging sub-system that receives image prints from the printer sub-system and packages the image prints for shipment to the order's recipient. The system may further include a shipping sub-system that receives the packaged image prints from the packaging sub-system and ships the packaged image prints to the order's recipient. The images may be processed automatically by the front-end sub-system, the printer sub-system, the packaging sub-system, and the shipping sub-system.

In another aspect, a method of distributing image prints may include receiving a set of one or more image prints where the set has one or more associated recipients. The method may also include indicating which type of packaging material is to be used to package the set of image prints based on information printed on at least one of the image prints in the set of image prints and indicating which method of shipping is to be used to ship the set of image prints based on information printed on at least one of the image prints in the set of image prints. The method may further include packaging the set of image prints using the indicated type of packaging material and shipping the set of image prints using the indicated shipping method.

9

A light associated with the indicated type of packaging material may be illuminated to indicate which type of packaging material is to be used, and a light associated with the indicated shipping method may be illuminated to indicate which shipping method is to be used. The information printed on at least one image print may include a bar code, and the method may also include reading the bar code printed on the at least one image print. The type of packaging material to be used to package the set of image prints and/or the method of shipping to be used to ship the image prints may be indicated based on the bar code.

In another aspect, a packaging system may include a plurality of packaging bins for storing image print packaging material and a plurality of visual indicators. Each packaging bin may be associated with at least one visual indicator (e.g., a plurality of lights and/or a display monitor for displaying the visual indictors) and the visual indicators associated with the packaging bins may be used to indicate in which packaging bin the packaging material for a set of image prints is to be stored.

The system may also include a plurality of shipping bins for storing packaged image prints so that each shipping bin may be associated with at least one visual indicator and at least one shipping method and so that the visual indicators may indicate in which shipping bin a packaged set of image prints should be stored for subsequent shipping by the shipping method associated with the indicated shipping bin. Optionally, the visual indictors may be used to sort the packaged image prints by method of shipping. For example, each shipping bin may be associated with a range of weights (e.g., for sorting the packaged image prints by weight and method of shipping) and/or one or more ZIP codes (e.g., for sorting the packaged image prints by ZIP code and method of shipping).

The system may also include a storage rack for storing image prints for subsequent combination with other image prints. The storage rack may include several of cubby-holes that each have an associated visual indicator. The visual indicators may be used to indicate in which cubby-hole a given image print is to be stored for subsequent combination with other image prints and to indicate from which cubby-hole a given image print is to be removed for combination with other image prints.

One or more of the following advantages may be provided. The systems and techniques described here provide an efficient mechanism for printing images in an optimized manner. An

10

order of images to be printed can be divided into one or more printable units of images that can be separately scheduled for printing. By dividing an order into printable units of images, the separate printable units can be printed in a non-linear manner in order to use more efficiently available printing resources. For example, a single multiple-recipient order can be divided into sub-orders corresponding to a single recipient; then, each sub-order can be divided into sub-batches, which correspond to separate printable units. Sub-batches from different sub-orders and different orders can be sorted and combined into a batch for printing on the available printing resources.

In addition, such sub-batches or other printable units can be scheduled for printing according to a global scheduling algorithm in which orders to be printed during a given unit of time (e.g., a work shift) are divided into sub-orders and sub-batches at the beginning of the shift. Then, batches are assembled from the sub-batches and scheduled for printing during the shift so as to optimize the use of printing resources over the course of the shift. Also, an immediate or just-in-time scheduling algorithm can be used in which orders are received and divided into sub-orders and sub-batches periodically over the course of a shift; batches are assembled and assigned to printers periodically during the shift based on the sub-batches and printers that are currently available when the batch is assembled.

Also, the systems and techniques described here provide mechanisms for providing improved control and tracking of the image printing process. For example, a low resolution camera can be used to capture low-resolution data that can be used to perform image print verification checks (i.e., checks of the ordering of the image prints) and quality checks (i.e., checks of the image quality of the image prints). Moreover, bar code readers can be used to read bar codes printed on destination identifier prints and/or the backs of image prints in order to identify when sub-batches and image prints have been printed, backprinted, binned, and/or shipped.

Moreover, photo-sensors positioned along a print line can be used to develop timing data that can be used for the detection of error conditions in the print line. For example, timing data can be used to develop a line profile that identifies how long it should take a given image print to pass the various photo sensors and a batch profile that identifies how long it should take

11

successive image prints to pass a given photo sensor. The timing data can be used to detect conditions such as paper jams and for process control.

Additionally, a print line can be provided that is fully automated (i.e., does not require an operator to perform any of the line processing functions) from the point the images are uploaded by a user until the packaged image prints are placed in a shipping bin for shipping to the specified recipients. For example, an automated insertion system can be used to automatically insert fully processed image prints into packaging material, seal the packaging material, and/or sort the packaged image prints into appropriate shipping bins.

Furthermore, the state of each image print that is to be generated from an order can also be tracked so as to provide more precise tracking and error recovery. For example, the states that are tracked for each image print to be generated from an order can include an "Entered" state indicating that the image from which the image print is to be generated has been included in an order but has not yet been sent to a print lab or print line for printing, a "Processing" state indicating that the image from which the image print is to be generated has been sent to a print lab or print line for printing, a "Binned" state indicating that the image print has been printed and binned, and a "Shipped" state indicating that the image print has been shipped. The states also can include a "Stored" state indicating that the image print has been stored, e.g., for consolidation with other image prints. The multiple states can be used to track the image prints as they are being printed and to recover from errors in the printing process. For example, if an error occurs during the processing of a given batch, image prints from the batch that are in the Processing state when the error occurred still need to be printed after the error has been removed while any image prints from the batch that are in the Binned state or Shipped state when the error occurred need not be printed again once the error is removed from the print line. As a result, the amount of rework required to recover from errors can be reduced.

12

VI. ISSUES PRESENTED FOR REVIEW

1. Whether claims 1-11, 32, and 34-51 are anticipated by Fredlund (USPN 5,666,215) under 35 USC § 102(b).

2. Whether claims 12-24, 29-31, 33, 59-76 and 89 are unpatentable over Fredlund in view of Cok (USPN 5,166,215) under 35 USC § 103(a).

3. Whether claims 25-28, 58 and 62 are unpatentable over Fredlund in view of Cok and Shaked (USPN 6,600,573) under 35 USC § 103(a).

4. Whether claim 56 is unpatentable over Fredlund in view of Cok and Chan (USPN 5,557,761) under 35 USC § 103(a).

5. Whether claim 57 is unpatentable over Fredlund in view of Cok and Gringeri (USPN 6,233,226) under 35 USC § 103(a).

6. Whether claim 77 is unpatentable over Fredlund in view of Zorn (USPN 6,129,349) under 35 USC § 103(a).

7. Whether claims 78-80 are unpatentable over Fredlund in view of Juan (USPN 6,554,415) under 35 USC § 103(a).

8. Whether claims 81-84 are unpatentable over Fredlund in view of Juan and Church (USPN 4,049,256) under 35 USC § 103(a).

9. Whether claims 85-88 are unpatentable over Fredlund in view of Robertson (USPN 6,505,534) under 35 USC § 103(a).

13

VII. GROUPING OF CLAIMS

For each ground of rejection that appellant contest herein, which applies to more than one claim, such additional claims, to the extent separately identified and argued below, do not stand or fall together.

VIII. ARGUMENT

1. CLAIMS 1-11, 32, AND 34-51 ARE NOT ANTICIPATED BY FREDLUND UNDER 35 USC § 102(B)

The Final Office Action maintained the Section 102 rejection using Fredlund (USPN 5,666,215). The Final Office Action stated that

> Applicant argues that Fredlund does not teach receiving an order specifying a plurality of recipients and, for each specified recipient, a set of one or more images associated with that recipient. Examiner disagrees and cites column 6, lines 29-41 were Fredlund discloses when order for a particular images are placed customer actuates the "done" button and can proceed to place another order which can be for another recipient. When customer has completed placing orders customer actuates the "place order" button, which advances to payment screen. "This facilitates sending the same image to different addresses (or different recipients) in screen 68 without re-editing the image." Since Fredlund teaches more than one recipient address, it suggests more than one recipient. Therefore Fredlund can meet the claim limitation for plurality of recipients. Fredlund also discloses in column 5, lines 32-47 that customer selects among the images the desired images to have printed. Page 2 of Final Office Action.

Applicants respectfully traverse the rejection. Even though customers can actuate the "done" button for each customer and repeat the ordering process, Fredlund does not expressly show receiving an order specifying a plurality of recipients in one step. The Office Action admits this in its assertion that Fredlund "suggests more than one recipient. Therefore Fredlund can meet the claim limitation for plurality of recipients." Probability, possibility, or mere suggestion cannot anticipate each of the independent claims. Hence, Fredlund cannot anticipate the independent claims as well as those dependent therefrom.

Specifically, on page 3, the Final Office Action acknowledged that Fredlund disclosed in his invention that orders for each recipient are entered one at a time. The Examiner's characterization of Fredlund actually supports Applicants' position since Fredlund can only place

14

an order for one recipient at a time and must repeat the ordering process for each recipient. Fredhund cannot receive an order specifying <u>a plurality of recipients</u> all in one step. Hence, the claims are allowable for at least this reason.

The Office Action further noted that:

Applicant also argues that newly amended claim includes the limitation for generating a contiguous run of prints for each recipient specified by the order in not taught by Fredlund. Examiner disagrees and cites column 8, lines 56-63 which describes the end of the print ordering method by stating that images are retrieved from the tape library and printed. Fredlund discloses in his invention that orders for each recipient is entered one at a time and once all images for all recipients are selected it collects the payment information and starts printing the desired images for each recipient. It is also obvious that prints for each recipient will be printed contiguously otherwise all prints will be mixed together and it would be very difficult to sort the prints for each recipient as well as being counter intuitive.
The response provided above applies equally to the arguments for claims 35 and 43.

Applicants respectfully traverse the rejection. A Section 102 rejection requires that each and every element be expressly present in the reference. In this case, the Office Action acknowledged that the element is not disclosed in the reference and relied on information outside of the reference as follows: "It is also obvious that prints for each recipient will be printed contiguously otherwise all prints will be mixed together and it would be very difficult to sort the prints for each recipient as well as being counter intuitive." There is no support for the Section 102 rejection and this is an independent reason for traversing the rejection.

A Section 102 rejection requires each and every element to be present. Here, Fredlund fails to show a number of elements. First, Fredlund fails to show receiving an order specifying a plurality of recipients and, for each specified recipient, a set of one or more images associated with that recipient.

Moreover, another independent basis for traversing the rejection is that Fredlund fails to show separating the images associated with the recipient into at least one printable unit of images to generate a contiguous run of prints for each recipient specified by the order.

Since at least two elements are not shown in Fredlund, the Section 102 rejection of independent claim 1 is improper and should be withdrawn. Moreover, claims that depend therefrom are not anticipated by Fredlund.

15

With respect to claim 35, Fredlund does not show receiving an order specifying one or more a plurality of recipients and, for each specified recipient, a set of digital content associated with that recipient; for each recipient specified by the order, separating the digital content associated with the recipient into at least one generatable unit of digital content having a contiguous run of prints for the recipient; and for each generatable unit of digital content, generating a physical manifestation of the unit of digital content.. Fredlund's Col. 5, lines 35-51 does not show the scheduler but teaches that:

> If there are more images in the file than can be shown in the column 52, the other images can be displayed by activating a scroll bar 54 to scroll the images in the column. To select one of the images from the digital image file, the customer selects the desired print size and quantity in area 76. Display area 56 assumes the correct aspect ratio for the desired final print size. The customer then identifies one of the images using a standard drag and drop computer interface or set-top box selection mode, for example by clicking on one of the images with a mouse or trackball and dragging it into the large display area 56, or by entering the desired frame number on a remote control device if the program is implemented via a set-top box. The customer can thereby use the computer data entry means to select one at a time the images he or she desires to have printed and desired services relating to each selected image. In this manner, a simple, non-intimidating display can be used to enter all necessary order information. Other image related services may include Photo CD's, image bearing items such as coffee mugs and T-shirts, and poster sized prints.

Here, Fredlund does not show a number of elements recited in claim 35 and thus cannot render claim 35 obvious. Allowance of claim 35 and those dependent therefrom is requested. Similarly, independent claim 43 and those dependent therefrom are also patentable over Fredlund. Withdrawal of the Section 102 rejection is requested.

2. CLAIMS 12-24, 29-31, 33, 59-76 AND 89 ARE PATENTABLE OVER FREDLUND IN VIEW OF COK UNDER 35 USC § 103(A)

Claims 12-14, 29-31, 33, 59-76 and 89 were rejected under Section 103(a) as unpatentable over Fredlund and Cok (6,157,436). First, these claims are allowable as they depend from allowable independent claims. Second, page 3 of the Final Office Action agreed that Fredlund disclosed in his invention that orders for each recipient are entered one at a time. The Examiner's characterization of Fredlund actually points away from the obviousness of combining Fredlund and Cok. Fredlund actually points away from the claimed invention since

16

Fredlund can only place an order for one recipient at a time and must repeat the ordering process for each recipient. The end result is the same in that a plurality of recipients can be designated, but Fredlund completely fails to disclose the claimed receiving an order specifying a plurality of recipients all in one step.

Cok similarly fails to show this element. Cok relates to an image printing system for generating multiple printed image copies in response to an order. A processor can divide the order into multiple sub-orders for respective image printers, each sub-order having a sub-order header which includes a unique order identification and an indication of the number of copies of the image to be printed by the corresponding printer. A plurality of image printers are connected to the processor, to each receive a corresponding sub-order and print the corresponding sub-order header, and the numbers of image copies indicated in that header.

Hence, the rejection is improper since neither shows the claimed receiving an order specifying a plurality of recipients all in one step.

Another basis for traversing the rejection is the improper application of hindsight from the teachings of the invention as follows:

> Cok discloses dividing the order to sub-orders for respective image printers. The suborders can be also used for different recipients among other purposes. Fredlund in column 2, lines 1-11 discloses the inconvenience of re-ordering reprints and other image related services is barrier to ordering. Thus ways to improve ordering process reduces the burden on the customer and encourages repeated and easier use. Thus improving the ordering process is the focus of Fredlund. And by using suborders to process orders for each recipient one can conclude that order processing is made more convenient as desired by Fredlund. Therefore, it can be shown that Fredlund provides the motivation for using suborders since it can facilitate processing of orders more conveniently.

Applicant notes that the present rejection does not establish *prima facie* obviousness under 35 U.S.C. § 103 and M.P.E.P. §§ 2142-2143. The Examiner bears the initial burden to establish and support *prima facie* obviousness. *In re Rinehart*, 189 U.S.P.Q. 143 (CCPA 1976). To establish *prima facie* obviousness, three basic criteria must be met. M.P.E.P. § 2142. First, the Examiner must show some suggestion or motivation, either in the Cok et al. reference or in the knowledge generally available to one of ordinary skill in the art, to modify the reference Fredlund so as to produce the claimed invention. M.P.E.P. § 2143.01; *In re Fine*, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). Secondly, the Examiner must establish that there is a reasonable

17

expectation of success for the modification. M.P.E.P. § 2142. Thirdly, the Examiner must establish that the prior art references teach or suggest all the claim limitations. M.P.E.P. §2143.03; *In re Royka*, 180 U.S.P.Q. 580 (CCPA 1974). The teachings, suggestions, and reasonable expectations of success must be found in the prior art, rather than in Applicant's disclosure. *In re Vaeck*, 20 U.S.P.Q.2d 1438 (CAFC 1991). Applicant respectfully submits that a *prima facie* case of obviousness has not been met because the Examiner's rejection fails on at least two of the above requirements.

Applicant traverses the comparison. Here, there is no suggestion or motivation in Fredlund to use Cok to arrive at a computer-implemented method of distributing image prints to a plurality of recipients by receiving an order specifying a plurality of recipients and, for each specified recipient, a set of one or more images associated with that recipient; for each of the plurality of recipients specified in the received order, printing at least one copy of each image in the recipient's image set; and distributing the printed image copies to their respective associated recipient.

Applicant points out that the Examiner bears the initial burden of factually establishing and supporting any *prima facie* conclusion of obviousness. *In re Rinehart*, 189 U.S.P.Q. 143 (CCPA 1976); M.P.E.P. § 2142. If the Examiner does not produce a *prima facie* case, the Applicant is under <u>no</u> obligation to submit evidence of nonobviousness. *Id.* In the instant case, the Examiner has not pointed to <u>any</u> evidence in Fredlund or how knowledge of those skilled in the art, provide a suggestion or motivation to modify the reference teaching so as to produce the claimed invention of claim 1 of a single order with multiple recipients. See *In re Zurko*, 59 U.S.P.Q.2d 1693 (Fed. Cir. 2001) ([I]n a determination of patentability .... the Board cannot simply reach conclusions based on its understanding or experience - or on its assessment of what would be basic knowledge or common sense. Rather, the Board must point to some concrete evidence in the record in support of these findings).

Under *Vaeck*, absent any evidence of a cited suggestion or reasonable motivation in the Fredlund or Cok reference, or knowledge of those skilled in the art, for a single order specifying a plurality of recipients, *prima facie* obviousness of claim 1 (and dependent claims) has not been established. As such, it is respectfully requested that the § 103(a) rejection of independent claims (and dependent claims) be withdrawn and the claims be allowed.

18

Here, neither Fredlund nor Cok show the missing elements of the independent claims raised above, namely a method of distributing image prints printed on a plurality of printers to a plurality of recipients, the method comprising: receiving an order specifying a plurality of recipients and, for each specified recipient, a set of one or more images associated with that recipient; and for each recipient specified by the order, separating the images associated with the recipient into at least one printable unit of images to generate a contiguous run of prints for the recipient.

Regarding claim 13, Cok does not specifically discloses the method of claim 12 wherein separating the images associated with the recipient into at least one printable unit of images includes, for each sub-order, separating the images associated with the sub-order into one or more sub-batches, each sub-batch representing a printable unit. As stated in claim 12, Cox does teach the principal of dividing an order to suborders and processing of the images accordingly. Therefore, further division or rearrangement of an order in smaller grouping is not considered to be novel and deemed obvious to do so. Therefore, it would have been obvious to a person skilled in the art, at the time of invention to subdivide an order to sub batches for further rearrange them in batches in order to distribute the image processing and printing to printers capable of fulfilling the order in a more efficient manner.

Regarding the remaining dependent claims, the Office Action is simply twisting Cok as taught by the present specification to arrive at the rejection. Specifically, Cok fails to show the claimed specifics of the parent claims and further fails to show the claimed specifics of each dependent claim, the content of which is listed in the Appendix.

Under *Vaeck*, absent any evidence of a cited suggestion or reasonable motivation in the Fredlund and Cok, or knowledge of those skilled in the art, for _, *prima facie* obviousness of the independent claims and dependent claims has not been established. As such, it is respectfully requested that the § 103(a) rejection of claims 12-24, 29-31, 33, 59-76 and 89 be withdrawn and the claims be allowed.

3. CLAIMS 25-28, 58 AND 62 ARE PATENTABLE OVER FREDLUND IN VIEW OF COK AND SHAKED UNDER 35 USC § 103(A)

Claims 25-28, 58 and 62 were rejected under 35 U.S.C. 103(a) as being unpatentable over Fredlund et al. (US patent 5,166,215) in view of Cok (US patent 6,157,436) and further in view of Shaked et al. (US patent 6,600,573).

Shaked relates to a method of converting a pixel of an image into a color pattern for display by an imaging device by applying a threshold to the pixel in a Cyan color plane of the image; applying an inverse of the threshold to the pixel in a Magenta color plane of the image; and applying the threshold or the inverse to the pixel in a Yellow color plane of the image; wherein the color planes are processed independently such that information in one color plane does not affect dithering in the other color plane. Green/Magenta ("G/M") color dithering is used to create a perception that a wider range of display colors is being printed. G/M dithering reduces the contrast in color combinations used to render color patches in a printed image.

First, these claims are allowable as they depend from allowable independent claims. Second, page 3 of the Final Office Action agreed that Fredlund disclosed in his invention that orders for each recipient are entered one at a time. The Examiner's characterization of Fredlund actually points away from the obviousness of combining Fredlund and Cok. Fredlund actually points away from the claimed invention since Fredlund can only place an order for one recipient at a time and must repeat the ordering process for each recipient. Fredlund thus cannot receive an order specifying a plurality of recipients all in one step.

Regarding claim 25, the Office Action noted that "Fredlund does not disclose the method of claim 20 further comprising, for each batch, storing the image data for the batch in a cache that is local to the selected printer for that batch. Shaked et al. discloses in column 3, lines 28-30 that green/magenta dithering is performed in memory. Fredlund and Shaked are analogous art because they are from the same field of endeavor that is printing art. Therefore, it would have been obvious to a person skilled in the art, at the time of invention to combine Shaked with Fredlund to perform dithering in memory." However, the assertion is incorrect since there is no relationship of the Shaked memory to a cache.

Regarding claim 26, there is no showing that Cok shows for each batch, placing the control data for the batch in a queue associated with the selected printer for that batch.

20

Regarding claim 27, there is no showing that Cok shows for each batch that is placed in a queue, sending the image data associated with the images included in that batch to an image processor associated with the selected printer for that batch

Regarding claim 28, there is no showing that Cok shows for each batch that is placed in a queue, sending the image data for that batch to the image processor associated with that queue before the batch reaches the front of the queue.

As such, it is respectfully requested that the § 103(a) rejection of the claims be withdrawn and the claims be allowed.

4. CLAIM 56 IS PATENTABLE OVER FREDLUND IN VIEW OF COK AND CHAN UNDER 35 USC § 103(A)

Claim 56 was rejected under 35 U.S.C. 103(a) as being unpatentable over Fredlund et al. (US patent 5,166,215) in view of Cok (US patent 6,157,436) and further in view of Chan et al. (US patent 5,557,761). The Office Action admitted that Fredlund in view of Cok do not teach the system of claim 55 wherein the scheduler uses a global scheduling algorithm, but asserted that "Chan et al. teaches use of global scheduling algorithm in column 1, lines 8-38. Fredlund, Cok and Chan are analogous art because they are from the same field of endeavor that is processing set of instructions. Therefore, it would have been obvious to a person skilled in the art, at the time of invention to use the global scheduling algorithm to schedule processing of orders which are not much more than set of instructions to be processed."

Chan relates to a system and method of generating object code from an intermediate representation of source code. The intermediate representation includes a plurality of basic blocks each being represented by a plurality dam dependency graphs, wherein each data dependency graph comprises a plurality of nodes each corresponding to an instruction from the target computer instruction set. There is no basis here for combining Chan with the picture related references since Chan is in a completely different field.

As discussed above, claim 56 is allowable since it depends from an allowable independent claim. Fredlund actually points away from the obviousness of combining Fredlund and Cok since Fredlund can only place an order for one recipient at a time and must repeat the

21

ordering process for each recipient. Fredlund thus cannot receive an order specifying <u>a plurality of recipients all in one step</u>.

As such, it is respectfully requested that the § 103(a) rejection of the claims be withdrawn and the claims be allowed.

5. CLAIM 57 IS PATENTABLE OVER FREDLUND IN VIEW OF COK AND GRINGERI UNDER 35 USC § 103(A)

Claim 57 was rejected under 35 U.S.C. 103(a) as being unpatentable over Fredlund et al. (US patent 5,166,215) in view of Cok (US patent 6,157,436) and further in view of Gringeri et al. (US patent 6,233,226). The Office Action acknowledge that "Fredlund in view of Cok do not teach the system of claim 55 wherein the scheduler uses a just-in-time scheduling algorithm. Gringeri discloses in column 5, lines 3845 use of just in time scheduling. Fredlund, Cok and Gringeri are analogous art because they are from the same field of endeavor that is analyzing and distributing images. Therefore, it would have been obvious to a person skilled in the art, at the time of invention to use just in time scheduling to process orders as they arrive for quicker delivery."

Gringeri relates to analyzing and transmitting video over a switched network. Two phases are generally provided: an analysis phase performed before transmission of the video; and a transmission phase performed after analyzing the video stream. During the pre-transmission video analysis phase, the video stream is analyzed in order to determine the needed traffic control parameters, such as the peak cell rate, the sustained cell rate, and the maximum burst size. The goal of the analysis phase is to select a transmission traffic contract for the encoded video stream that will minimize the utilization of network resources and permit the quality of the video to be maintained. After the analysis phase, the transmission phase is performed to transmit the video over the network in accordance with the selected traffic control parameters. During the transmission phase, a model of the decoder buffer is kept at the source and is first pre-filled by transmitting data at the sustained cell rate. Thereafter, the video stream data is transmitted at the peak cell rate or the sustained cell rate depending on the availability of tokens.

As is evident, there is no basis to combine the references since Gringeri is in a completely different field. Moreover, claim 57 is allowable as they depend from allowable independent

22

claim. Fredlund actually points away from the claimed invention since Fredlund can only place an order for one recipient at a time and must repeat the ordering process for each recipient. Fredlund thus cannot receive an order specifying <u>a plurality of recipients all in one step</u>. Further, Gringeri fails to show a scheduler scheduling the batches to be printed in a predetermined ordering with a global scheduling algorithm and a just-in-time scheduling algorithm.

As such, it is respectfully requested that the § 103(a) rejection of the claims be withdrawn and the claims be allowed.

6. CLAIM 77 IS PATENTABLE OVER FREDLUND IN VIEW OF ZORN UNDER 35 USC § 103(A).

Claim 77 was rejected under 35 U.S.C. 103(a) as being unpatentable over Fredlund et al. (US patent 5,166,215) in view of Zorn (US patent 6,129,346).

Zorn shows an advertising or promotional brochure that is to be mailed in conjunction with a magazine or periodical. The brochure may include high-quality, glossy photographs, and be personalized with text and/or images that relate specifically to the magazine subscriber. In addition, the brochure may include coupons for sales discounts, bank promotional checks, and other promotions that may be redeemed by the magazine subscriber. The brochure may be embodied as a multi-page pamphlet and may have an appearance and cover similar to the magazine to which it is attached.

As discussed above, claim 77 is allowable since it depends from an allowable parent claim. None of the references show receiving an order specifying <u>a plurality of recipients all in one step</u>. There is no basis to combine Zorn with Fredlund to arrive at a print distribution system with a plurality of printers; a front-end computer sub-system for receiving an order specifying a plurality of recipients and, for each specified recipient, a set of one or more images associated with that recipient; a scheduler, connected to the front-end computer sub-system and the plurality of printers, that for each recipient specified by the order (a) separates the images associated with the recipient into at least one printable unit of images to generate a contiguous run of prints for the recipient, and (b) designates a printer on which each printable unit is to be printed and an inverter that inverts each image print prior to backprinting. As such, it is

23

respectfully requested that the § 103(a) rejection of the claims be withdrawn and the claims be allowed.

7. CLAIMS 78-80 ARE PATENTABLE OVER FREDLUND IN VIEW OF JUAN (USPN 6,554,415) UNDER 35 USC § 103(A)

Claims 78-80 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fredlund et al. (US patent 5,166,215) in view of Juan (US patent 6,554,415). Juan relates to a hardcopy apparatus with a media drive roller and an independent media holddown unit. Such holddown unit includes a platen, on which a print zone is defined, and a vacuum source for generating a negative pressure for holding at least a portion of a medium substantially flat on the print zone. The platen is extending towards, and partially overlapping, the drive roller. In addition, a method for holding a medium to be printed on substantially flat over a print zone of a hardcopy apparatus includes indexing the medium over the print zone, generating a negative pressure capable of holding a portion of the medium flat on the print zone, extending the negative pressure generated to the print zone, to achieve a substantially uniform holding force over the print zone.

First, these claims are allowable as they depend from allowable parent claims. Fredlund actually points away from the claimed invention since Fredlund can only place an order for one recipient at a time and must repeat the ordering process for each recipient. None of the references show receiving an order specifying a plurality of recipients all in one step. There is no basis to combine the references to arrive at a print distribution system with a plurality of printers; a front-end computer sub-system for receiving an order specifying a plurality of recipients and, for each specified recipient, a set of one or more images associated with that recipient; a scheduler, connected to the front-end computer sub-system and the plurality of printers, that for each recipient specified by the order (a) separates the images associated with the recipient into at least one printable unit of images to generate a contiguous run of prints for the recipient, and (b) designates a printer on which each printable unit is to be printed; and further with 78) a curl reduction equipment that reduces curling of the image print prior to backprinting; (79) wherein the curl-reduction equipment uses suction to reduce curling of the image print; and (80) wherein the curling-reduction equipment device includes a vacuum table.

24

As such, it is respectfully requested that the § 103(a) rejection of the claims be withdrawn and the claims be allowed.

8. CLAIMS 81-84 ARE PATENTABLE OVER FREDLUND IN VIEW OF JUAN AND CHURCH (USPN 4,049,256) UNDER 35 USC § 103(A)

Claims 81-84 were rejected under 35 U.S.C. 103(a) as being unpatentable over Fredlund et al. (US patent 5,166,215) in view of Juan (US patent 6,554,415) and further in view of Church et al. (US patent 4,049,256).

Church shows an alignment assembly for accurately aligning separate sets of documents being inserted into the assembly from transversely oriented feed paths, the alignment assembly including a pivotally mounted document gate which provides not only guide passageways for documents entering the assembly, but also an alignment edge for accurately positioning and aligning documents within the assembly in document clamps adapted to transport the documents from the alignment assembly to a print station and thereafter to an exit transport assembly. The movement of documents inserted in the alignment assembly is effected by a document aligner assembly comprising cooperating vibratory document transporters and pivotally mounted back-up rollers for simultaneously urging the documents into the clamps and against the alignment edge of the document gate.

First, these claims are allowable as they depend from allowable independent claims. Second, page 3 of the Final Office Action agreed that Fredlund disclosed in his invention that orders for each recipient are entered one at a time. The Examiner's characterization of Fredlund actually points away from the obviousness of combining Fredlund and Cok. Fredlund actually points away from the claimed invention since Fredlund can only place an order for one recipient at a time and must repeat the ordering process for each recipient. Fredlund thus cannot receive an order specifying a plurality of recipients all in one step. Moreover, they fail to show the specifics of claims 81-84. As such, it is respectfully requested that the § 103(a) rejection of the claims be withdrawn and the claims be allowed.

25

9. CLAIMS 85-88 ARE PATENTABLE OVER FREDLUND IN VIEW OF ROBERTSON (USPN 6,505,534) UNDER 35 USC § 103(A)

Claims 85-88 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fredlund et al. (US patent 5,166,215) in view of Robertson (US patent 6,505,534). Roberson shows that mail is placed into an input bin having a conveyor that conveys the mail towards a feeder. The feeder serially feeds the envelopes by engaging the lead envelope in the stack of mail and displacing the lead envelope transverse the stack of mail. The mail is fed into a shuttle that vertically displaces the envelopes to position the envelopes for entering a justifier. The justifier justifies the top edge of the envelopes and conveys the envelopes to a cutter that severs the top edge of the envelopes. A transport conveys the envelopes from the top cutter to an extractor. The extractor opens the edge-severed mail and presents the contents of the envelopes to an operator who manually extracts the contents. The transport conveys the empty envelopes from the extractor to a verifier that verifies that all of the contents have been removed from the envelope before the envelope is discarded. The transport is vertically adjustable, and a vertical drive motor is provided to vertically adjust the conveyor.

First, these claims are allowable as they depend from allowable independent claims. Second, page 3 of the Final Office Action agreed that Fredlund disclosed in his invention that orders for each recipient are entered one at a time. The Examiner's characterization of Fredlund actually points away from the obviousness of combining Fredlund and Cok. Fredlund actually points away from the claimed invention since Fredlund can only place an order for one recipient at a time and must repeat the ordering process for each recipient. Fredlund thus cannot receive an order specifying <u>a plurality of recipients all in one step</u>.

Hence, the references do not show print distribution system having a plurality of printers; a front-end computer sub-system for receiving an order specifying a plurality of recipients and, for each specified recipient, a set of one or more images associated with that recipient; a scheduler, connected to the front-end computer sub-system and the plurality of printers, that for each recipient specified by the order (a) separates the images associated with the recipient into at least one printable unit of images to generate a contiguous run of prints for the recipient, and (b) designates a printer on which each printable unit is to be printed, AND a conveyor on which image prints are stacked after printing; a controller, connected to the conveyor, that advances the

26

conveyor so that a new stack can be stacked after all the image prints in a printable unit have been stacked on the conveyor; a plurality of bins, positioned on the conveyor, so that the image prints for a printable unit are stacked in a bin; or wherein the bin has a base for supporting the bin when the bin is placed on a surface of the conveyor; a first bottom wall connected to the base so that the first wall has a pitch incline with respect to the surface of the conveyor; and a second bottom wall connected to a first end of the first wall at one end, the second wall and first wall forming an angle so that image prints received in the bin tend to stack on the first bottom wall with an edge of each image print registering with the second bottom wall.

Hence, Fredlund, Cok, Shaked, Chan, Gringeri, Zorn, Juan, Church and Robertson, singly or in combination, cannot render the independent claims obvious. With respect to the dependent claims, they are allowable because they depend from allowable independent claims. As such, it is respectfully requested that the § 103(a) rejection of the claims be withdrawn and the claims be allowed.

CONCLUSION

Applicants believe that the above discussion is fully responsive to all grounds of rejection set for the in the Office Action.

If for any reasons the Examiner believes a telephone conference would in any way expedite resolution of the issues raised in this appeal, the Examiner is invited to telephone the undersigned at 408-528-7490.

Respectfully submitted,

Bao Tran
Reg. No. 37,955

27